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ABSTRACT

This study was undertaken to evaluate Human Immunodeficiency Virus (HIV) prevention and comprehensive health activities in public secondary schools in Mississippi. The Comprehensive School Health Curriculum (CSHC), for implementation in junior, middle, and senior high schools, was designed to promote improved knowledge and behaviors related to the health and well-being of youth. A total of 18 schools participated in the pilot year (1990-91) of curriculum implementation. Evaluation consisted of questionnaires to assess student reaction, learning, and behavior change. A total of 335 usable questionnaires from 8 schools were returned. Results indicate favorable reaction from students; significant differences were found on both the learning and behavior questionnaires between experimental groups of students exposed to the curriculum and control groups. Further analysis reveals that knowledge about safe sex practices does not always translate into safe behavior on the part of the student. Five tables, five figures, a comparison of significant differences between responses of junior and senior high school students, and recommendations for the continuing evaluation of activities comprise 75 percent of the document. (LL)

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EVALUATION OF HIV PREVENTION AND COMPREHENSIVE HEALTH EDUCATION ACTIVITIES

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Abstract

Evaluation of the Comprehensive School Health Curriculum in Mississippi was undertaken. A total of 18 schools participated in the pilot year (1990-1991) of implementation. Evaluation consisted of questionnaires to assess student reaction, learning, and behavior change. A total of 335 usable questionnaires from eight schools were returned. Results indicated 1) favorable reaction from students, and 2) significant differences on both the learning and behavior questionnaires between students exposed to the curriculum and control groups. Additional analysis indicated that knowledge about safe sex practices does not always translate into safe behavior on the part of the student. Recommendations for the continuing evaluation activities are noted.

Evaluation of HIV Prevention and Comprehensive Health Education Activities

The purpose of this research was to evaluate HIV prevention and comprehensive health activities in public secondary school in Mississippi. The Mississippi State Department of Education, with assistance from Center for Disease Control, developed the Comprehensive School Health Curriculum (CSHC) for implementation in junior high, middle, and senior high schools. This curriculum was designed to promote improved knowledge and behaviors related to the health and well-being of youth. A total of eighteen schools participated in the pilot year (1990-1991) of curriculum implementation.

Method

Three levels of assessment were conducted:

A Reaction Questionnaire was developed and administered to a sample of students who had been exposed to the Comprehensive School Health Curriculum (CSHC) in academic year 1990-1991. (These students served as the Experimental Group.) The questionnaire measured students' satisfaction with the curriculum content, relevance, and clarity; presentation style; teaching materials; and time devoted to the subject matter. Anonymity was assured to the students.

To measure student learning of the factual material, curriculum teachers were asked to provide a list of questions which covered the subject matter. These questions were used to develop an objective Learning Questionnaire. The researchers administered the Learning Questionnaire to six schools involved in the pilot curriculum. At each of these schools, the questionnaire was given to a sample of students who had been exposed to the curriculum (Experimental Group) and to a sample of students who had not been exposed to the curriculum (Control Group 1). This control group approximated the experimental group in the variables of grade, age, gender, and race. The Learning Questionnaire was also administered to a sample of students from schools where the curriculum was not taught (Control Group 2).

Behavior change focused on the impact of the curriculum on the students' present behavior and intentions regarding future health activities. Based on curriculum material, a Behavior Questionnaire was developed to assess current behavior and students' predictions about what they would do in certain situations. These questions were submitted to the same students who received the Learning Questionnaire (the Experimental Group and Control Groups 1 and 2).

Descriptive statistics were provided on the questionnaire results, and significant differences among the experimental and two control groups were investigated.

Results

A total of 335 usable surveys from eight schools were returned. Of these, 241 (72%) were from Junior High School students and 94 (28%) were from Senior High School Students. Middle School students were grouped with the Junior High students for classification purposes. Fifty percent (226) of the respondents were from schools which did not have the CSHC. Twenty-six percent (86) were from students attending a school which had the curriculum, but who had not personally been exposed to the curriculum. The remaining 24% (81 students) had taken the CSHC.

One Junior High School with 15 respondents blanked out questions relating to sexual behavior before giving the questionnaire to the students.

Student Opinions of the Comprehensive School Health Curriculum (Part I of Survey)

Questionnaires on this subject were received from 82 students who had taken the Comprehensive Health Curriculum. This questionnaire contained only nine items, phrased as statements. On the first eight items, the respondent was asked to choose one of the following:

1. Totally or mostly disagree
2. Somewhat disagree
3. Somewhat agree
4. Totally or mostly agree

Choices 3 and 4 were considered to be a "Favorable" response.

Question 9 asked whether the time devoted to the subject was too much, too little, or just about right. "Just about right" was considered to be the only favorable response.

The percentage of favorable responses is shown in Table 1. As the table shows, students reacted very favorable to the curriculum. About nine out of ten students thought the material was accurate, interesting, relevant, clear, and would influence their behavior. 72% said that the course already had influenced their behavior. On the question about time devoted to the subject, 13% thought that the time was too much and another 13% thought the time was too little.

Differences between Junior and Senior High School Respondents. There were only 13 Senior High School students who responded to this part of the survey, but their answers were significantly more favorable than the Junior High School respondents on six of the nine questionnaire items. On the first five items, the Senior High School students gave 100% favorable responses.

Items on Which Senior High School students were significantly more favorable.

1. The curriculum contained topics of interest to me.
2. The materials used in teaching the curriculum were interesting.
3. The information was clear and easily understood.
4. The information was relevant and useful to me.
5. I believe all the information presented was accurate.
6. I changed some behavior because of the information presented.

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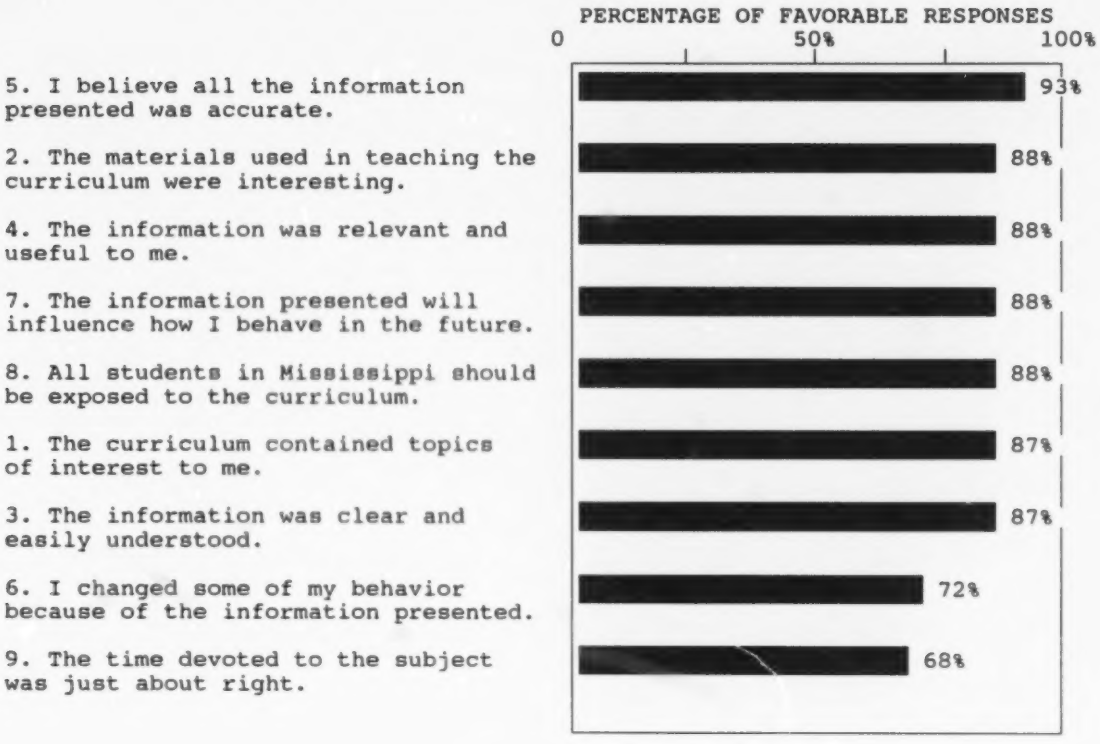
Table 1

OPINION OF THE COMPREHENSIVE HEALTH CURRICULUM


PERCENTAGE OF FAVORABLE RESPONSES
0
50%
100%
5. I believe all the information presented was accurate.
93%
2. The materials used in teaching the curriculum were interesting.
88%
4. The information was relevant and useful to me.
88%
7. The information presented will influence how I behave in the future.
88%
8. All students in Mississippi should be exposed to the curriculum.
88%
1. The curriculum contained topics of interest to me.
87%
3. The information was clear and easily understood.
87%
6. I changed some of my behavior because of the information presented.
72%
9. The time devoted to the subject was just about right.
68%

Responses to Questions on Recent and Planned Behavior and to Questions of Knowledge (Parts II and III of Survey)

For purposes of interpreting results, the questions in Parts II and III were grouped according to six topics, as follows:

1. Drug/Alcohol-related behavior
2. Sexually-related behavior
3. Drug/Alcohol-related knowledge
4. Sexually-related knowledge
5. Nutritional/Physiological knowledge
6. Other curriculum-related knowledge (safety, environment, etc.)

Most of the questions were multiple choice. However, there were two questions relating to drugs and alcohol, and one relating to sex (questions 3, 8, and 11 in part II of the questionnaire) which asked the respondent to "circle as many answers as apply." On these items, each possible answer was treated as a separate "Yes/No" question. For example, Question 3 was "Circle any of the following drugs that you have used during the past 30 days." Four percent of the respondents circled "Marijuana" so the answers were tabulated as:

3a. Used Marijuana during the past 30 days
0. No 96%
1. Yes 4%

For easier comprehension, the percentages of "desirable responses" for each topic are shown as horizontal bars in the figures on the following pages. The "desirable" response is the answer which is the more risk-free, socially effective, or (in the case of questions on knowledge) factually correct. In the bar charts, this response is either shown in parentheses, following the text of the question or is listed as a note at the bottom of the chart.

Drug/Alcohol Related Behavior

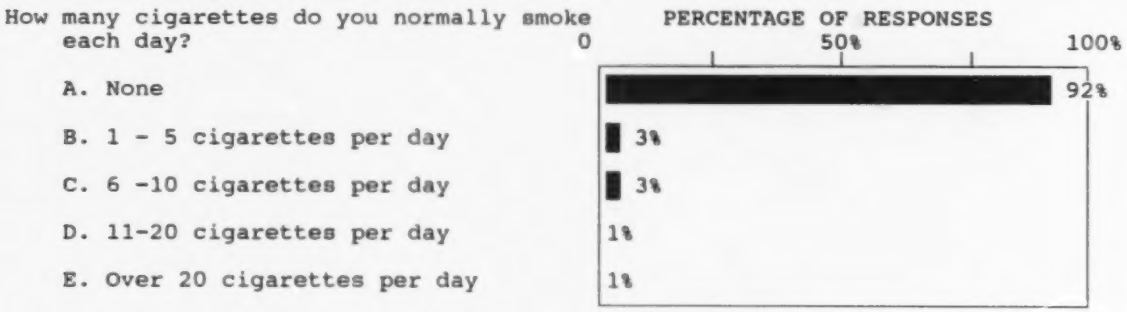
Current use of illegal drugs. The question on current illegal drug use asked the students to circle the name of any drug used in the last 30 days. Eight classes of drugs were listed, followed by an option to circle "Other" and the option to circle "I have not used any of these drugs in the past 30 days."

The respondents reported very little drug use. No student reported using Hallucinogens and only 1 or 2 students reported using cocaine, amphetamines, narcotics (e.g. Heroin), barbiturates, steroids, or tranquilizers during the past 30 days. Thirteen students (4%) indicated that they had used marijuana during the past 30 days.

Five percent of the respondents (17 students) circled the choice "Other" on the list of drugs used in the past 30 days. This item on the survey instrument was probably not interpreted consistently by all students. Some may have thought that "Other" meant "none of the above." Other students may have included legal prescription drugs or substances containing caffeine in their definition of "other drugs."

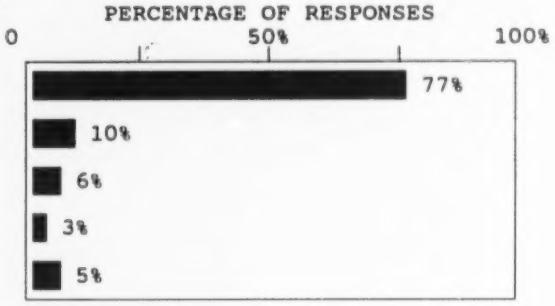
Only 81% of the respondents (272 students) circled the response "I have not used any of these drugs in the past 30 days." About 9% of the students did not circle ANY of the choices.

Cigarette Use. Ninety-two percent of the respondents (168 students) indicated that they do not smoke. Three percent reported smoking between 1 and 5 cigarettes daily. The remaining 5% (16 students) stated that they smoked over five cigarettes per day. The full set of responses is shown below.



Alcohol Use. Usage of alcohol was more prevalent than smoking or illegal drug use. Twenty-three percent of the respondents indicated that they had at least one alcoholic beverage during the last week. The full set of responses to this question is shown below.

During the past week, how many alcoholic drinks (beer, wine, wine coolers, or liquor) have you had?



When asked if they were with a group of friends who were all drinking alcohol, 28% of the respondents said that they definitely or probably would also have a drink. Another 25% answered "Don't know" to this question. Fewer than half (47%) said that they probably or definitely would not have a drink. The full set of responses to this question is shown below.

If you are with a group of your friends, all of whom are drinking alcohol, what is the likelihood that you will also have a drink?

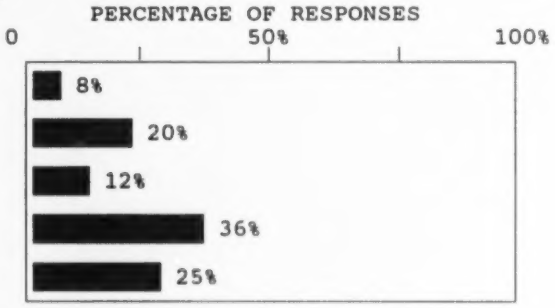
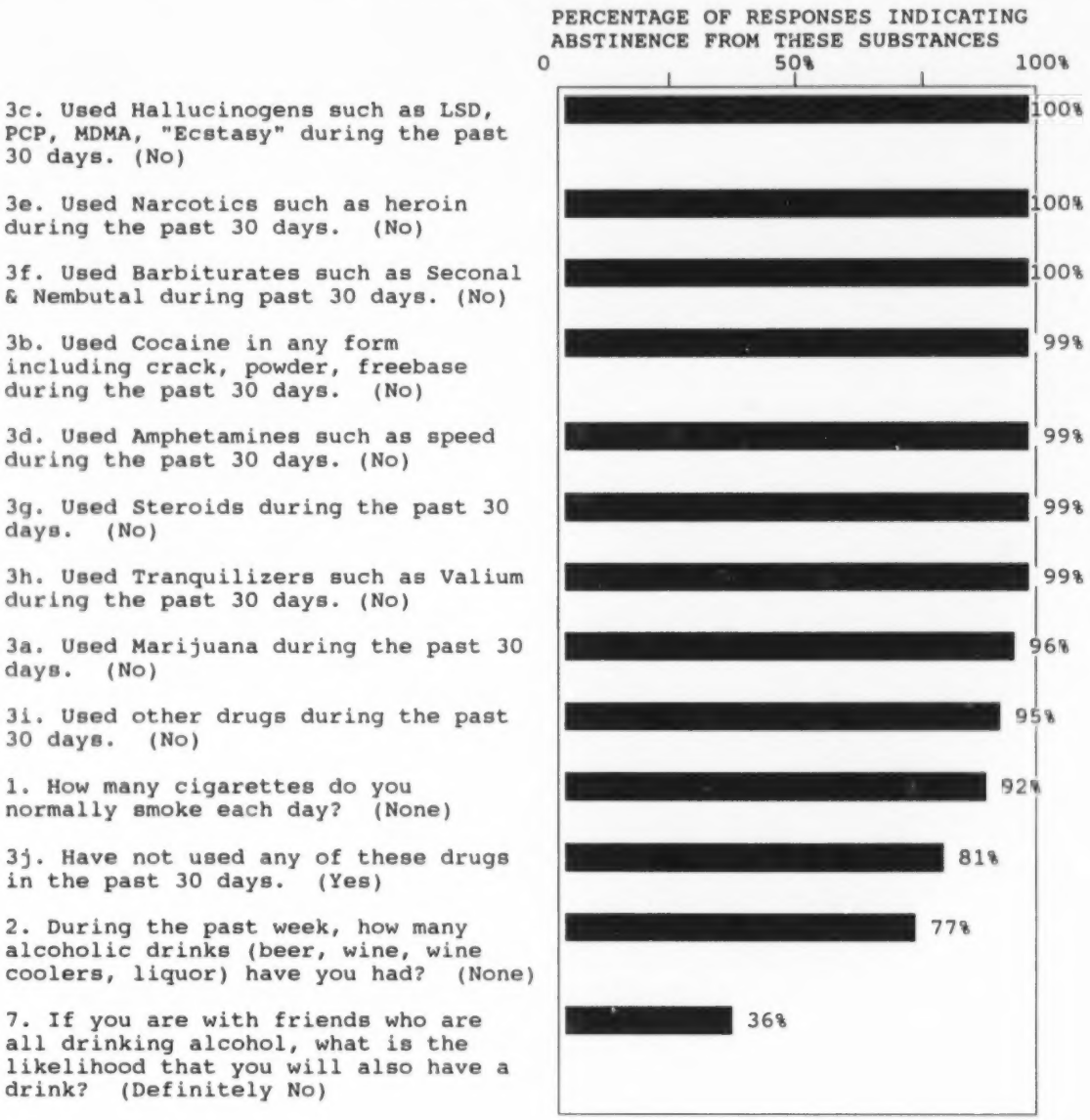


Figure 1 on the following page shows the percentage of "desirable" responses to questions relating to current use of illegal drugs, cigarettes, and alcohol. The "desirable" responses are those which indicate abstinence from these substances.

Figure 1

DRUG/ALCOHOL RELATED BEHAVIOR


PERCENTAGE OF RESPONSES INDICATING ABSTINENCE FROM THESE SUBSTANCES
0
50%
100%
3c. Used Hallucinogens such as LSD, PCP, MDMA, "Ecstasy" during the past 30 days. (No)
100%
3e. Used Narcotics such as heroin during the past 30 days. (No)
100%
3f. Used Barbiturates such as Seconal & Nembutal during past 30 days. (No)
100%
3b. Used Cocaine in any form including crack, powder, freebase during the past 30 days. (No)
99%
3d. Used Amphetamines such as speed during the past 30 days. (No)
99%
3g. Used Steroids during the past 30 days. (No)
99%
3h. Used Tranquilizers such as Valium during the past 30 days. (No)
99%
3a. Used Marijuana during the past 30 days. (No)
96%
3i. Used other drugs during the past 30 days. (No)
95%
1. How many cigarettes do you normally smoke each day? (None)
92%
3j. Have not used any of these drugs in the past 30 days. (Yes)
81%
2. During the past week, how many alcoholic drinks (beer, wine, wine coolers, liquor) have you had? (None)
77%
7. If you are with friends who are all drinking alcohol, what is the likelihood that you will also have a drink? (Definitely No)
36%

Anticipated Drug Use. Students were asked to circle the name of any drug with which they might experiment. Eight classes of drugs were listed, followed by an option to circle "Other."

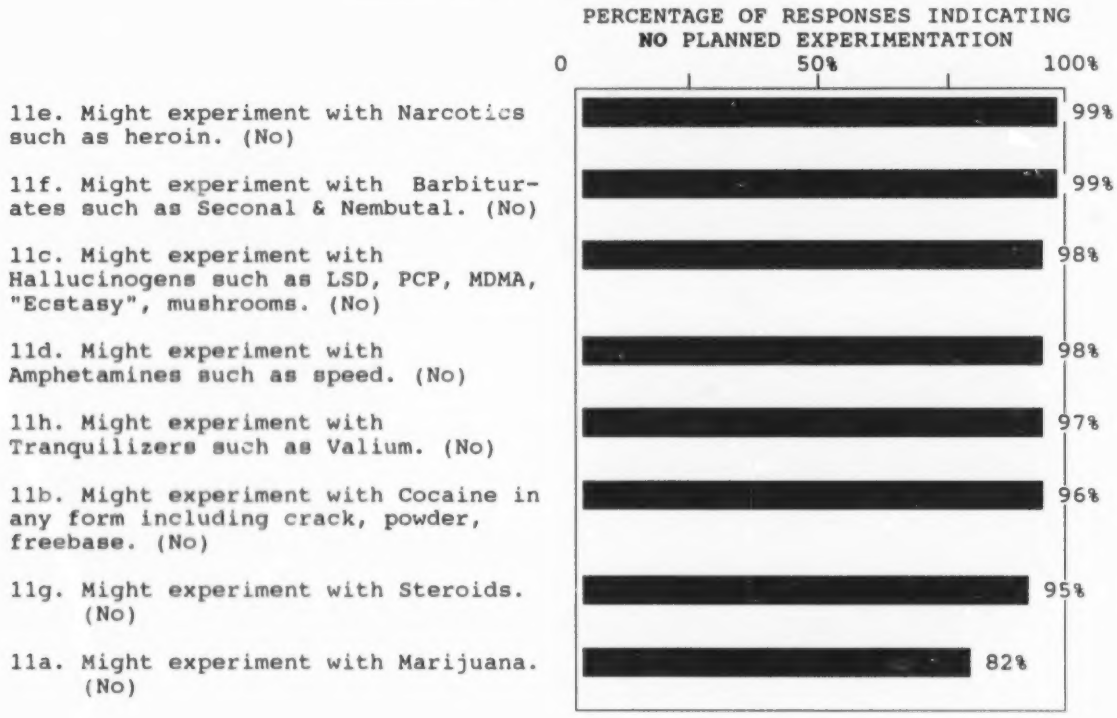
Eighteen percent of the respondents (60 students) said that they might experiment with marijuana, 5% indicated possible experimentation with steroids, 4% with some form of cocaine, and 3% with tranquilizers. Two percent or fewer indicated that they might experiment with hallucinogens, amphetamines, narcotics, or barbiturates.

Seventeen percent of the students circled the choice "Other" on this question. As discussed under Current Drug Use, this response is not subject to reliable interpretation.

Figure 2 shows the percentage of "desirable" responses to this survey item. The "desirable" responses are those which indicate that the student does not plan to experiment with illegal drug use.

Figure 2

ANTICIPATED DRUG RELATED BEHAVIOR


PERCENTAGE OF RESPONSES INDICATING
NO PLANNED EXPERIMENTATION
0
50%
100%
11e. Might experiment with Narcotics such as heroin. (No)
99%
11f. Might experiment with Barbiturates such as Seconal & Nembutal. (No)
99%
11c. Might experiment with Hallucinogens such as LSD, PCP, MDMA, "Ecstasy", mushrooms. (No)
98%
11d. Might experiment with Amphetamines such as speed. (No)
98%
11h. Might experiment with Tranquilizers such as Valium. (No)
97%
11b. Might experiment with Cocaine in any form including crack, powder, freebase. (No)
96%
11g. Might experiment with Steroids. (No)
95%
11a. Might experiment with Marijuana. (No)
82%

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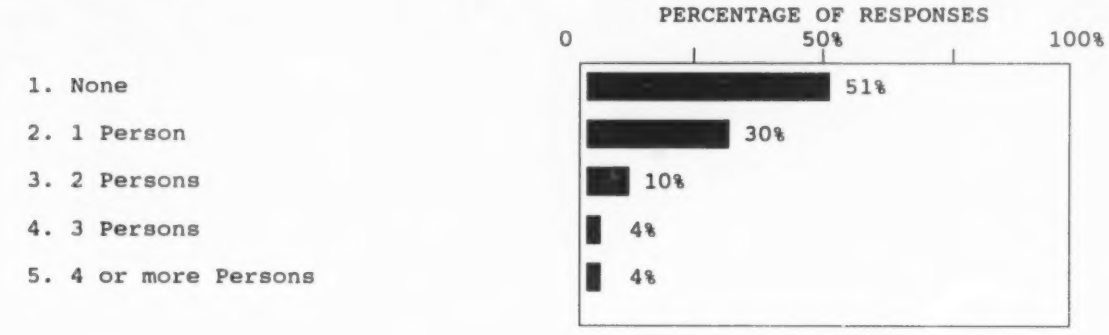
Sexually Related Behavior

Sexual Activity. Almost half of the respondents (49%) indicated that they had sexual intercourse with at least one person during the last three months. Eighteen percent indicated that they had intercourse with two or more people during the past three months. The full range of responses is shown below.

During the past three months, with how many people have you had sexual intercourse?

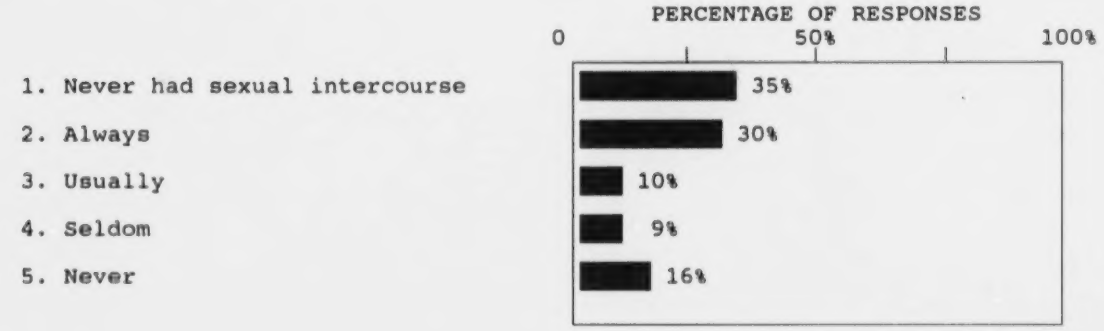


NOTE: Does Not Total to 100%, Due to Rounding

Use of Contraceptives. Question 5 asked about the use of contraceptives in general and question 6 asked specifically about the use of condoms. The answers to the two questions were fairly consistent but not entirely so. For instance, on question 5, 110 students (35%) reported that they had never had sexual intercourse, while on question 6, 115 students (36%) gave this answer. Question 5 indicates that 25% of the respondents seldom or never use contraceptives. Question 6 indicates that 23% seldom or never use condoms. It appears that contraceptives other than condoms are seldom used.

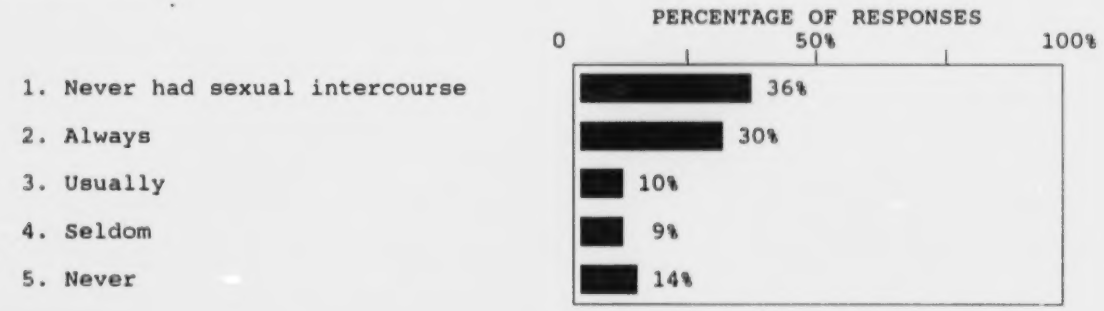
Responses to both questions are shown below.

Answers to Question 5. How often do you and your partner use contraceptives when you have sexual intercourse?



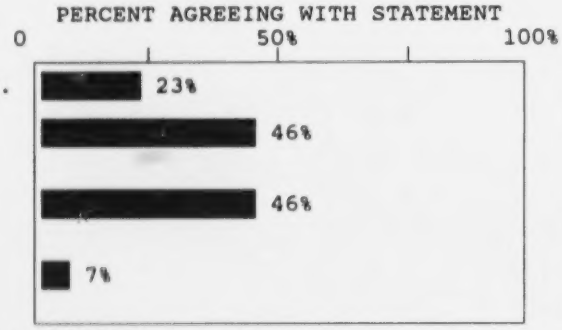
Answers to Question 6. How often do you or your partner use condoms when you have sexual intercourse?

SURVEY TOTAL



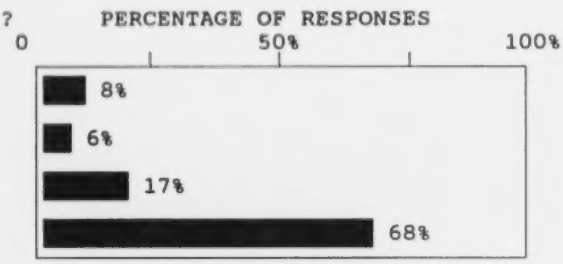
NOTE: Does Not Total to 100%, Due to Rounding

Anticipated Sexual Behavior. Students were asked under what circumstances they would have sexual intercourse and at what age they would consider becoming a parent. The results are displayed below.


PERCENT AGREEING WITH STATEMENT
0
50%
100%
I will not have sex until I am married.
23%
Would postpone sex until I was sure I was in love.
46%
Would make sure that one of us had contraception before having sex.
46%
Would have sex even if contraception were not available.
7%

Note: Students were told to circle all answers that apply.

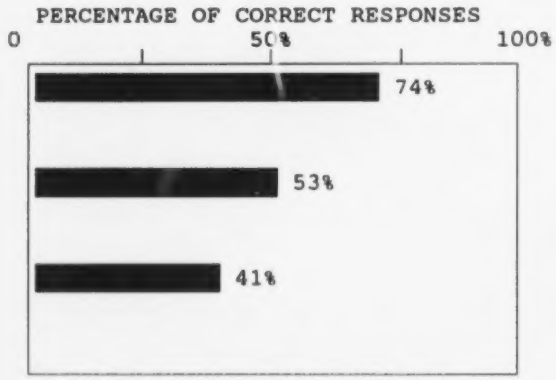
Question: What is the youngest age at which you would consider being a parent?



Drug/Alcohol Related Knowledge

The survey contained three questions to test the students' knowledge about drugs and alcohol. The questions reflected information that was covered in the Comprehensive School Health Curriculum. A great majority (74%) of the respondents understand that substances taken into a pregnant woman's body will pass to the unborn child, but only about half recognized cigarettes and coffee as drugs, or were knowledgeable about the heavy use of marijuana on sex hormones. The percentage of correct answers is shown below.

Figure 3
DRUG/ALCOHOL RELATED KNOWLEDGE



10. Substances taken into a pregnant woman's body (pass through the placenta to the unborn child).

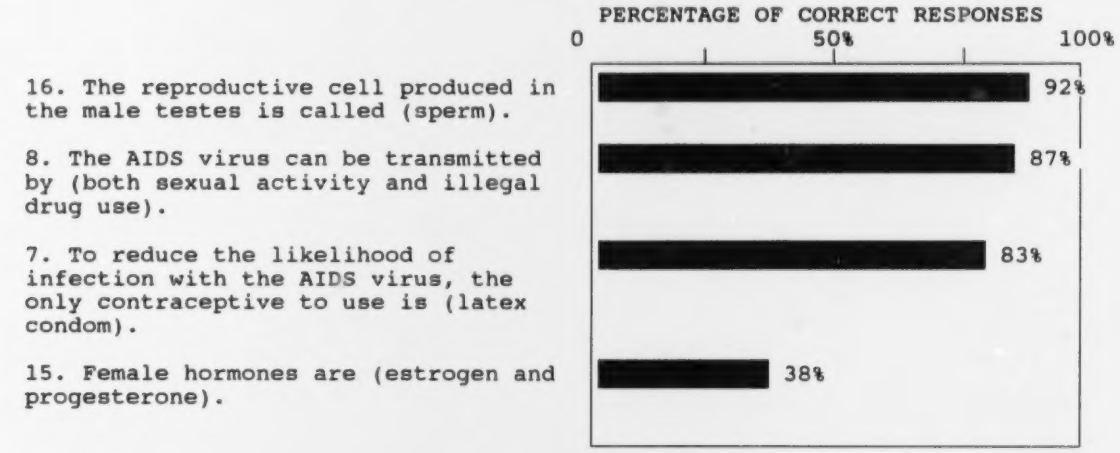
11. Which of the following is NOT considered a drug? (all -- coffee, tobacco, marijuana).

12. A consequence of heavy use of Marijuana is (decrease in male and female sex hormones).

Sex Related Knowledge

The survey contained four questions to test the students' knowledge about sexual matters. The questions reflected information that was covered in the Comprehensive School Health Curriculum. A great majority of the respondents correctly identified the name of the male reproductive cell, means by which AIDS is transmitted, and which contraceptive will reduce the likelihood of AIDS infection. Only about one third (38%) of the respondents correctly identified the name of the female hormones. The percentage of correct answers to each question is shown below.

Figure 4
SEX RELATED KNOWLEDGE


PERCENTAGE OF CORRECT RESPONSES
0
50%
100%
16. The reproductive cell produced in the male testes is called (sperm).
92%
8. The AIDS virus can be transmitted by (both sexual activity and illegal drug use).
87%
7. To reduce the likelihood of infection with the AIDS virus, the only contraceptive to use is (latex condom).
83%
15. Female hormones are (estrogen and progesterone).
38%

Relationship between Sex Related Knowledge and Sex Related Behavior. It was hypothesized that there might be a relationship between knowing the correct answer to the question "To reduce the likelihood of infection with AIDS, the only contraceptive to use is:" and the actual use of condoms. this proved not to be the case. The results are shown below:

	<---- Number using condoms ----> Always	Usually	Seldom	Never	Percentage Who Always/Usually Use
Correct Answer	77	79	28	35	79%
Incorrect Answer	29	10	1	6	85%
Percentage Correct	89%	91%	97%	85%	

Respondents who answered the question about AIDS prevention correctly appear to be less likely to always or regularly use condoms than those who answered the question incorrectly. The difference is not statistically significant.

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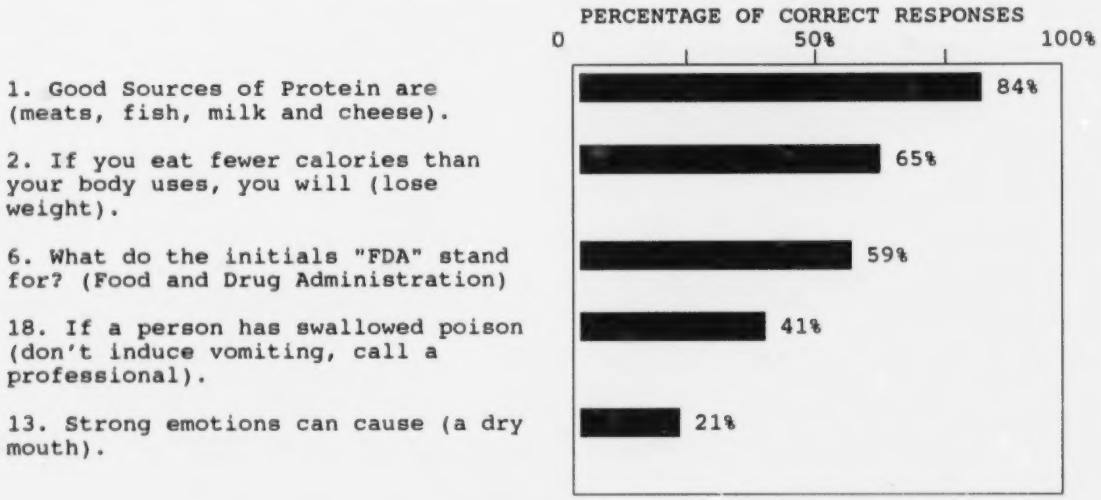
Nutritional/Physiological Knowledge

The survey contained four questions to test the students' knowledge in the area of nutrition and physiology. The questions reflected information that was covered in the Comprehensive School Health Curriculum. The percentage of correct answers to these questions varied from a high of 84% on good sources of protein to a low of 23% on the physiological effects of strong emotions. Almost half (45%) of the respondents answered that strong emotions cause a slower heart beat. ("My heart stopped!" ?)

The percentage of correct answers to each question is shown below.

Figure 5
NUTRITIONAL/PHYSIOLOGICAL KNOWLEDGE


PERCENTAGE OF CORRECT RESPONSES
0
50%
100%
1. Good Sources of Protein are (meats, fish, milk and cheese).
84%
2. If you eat fewer calories than your body uses, you will (lose weight).
65%
6. What do the initials "FDA" stand for? (Food and Drug Administration)
59%
18. If a person has swallowed poison (don't induce vomiting, call a professional).
41%
13. Strong emotions can cause (a dry mouth).
21%

SIGNIFICANT DIFFERENCES BETWEEN STUDENTS WHO HAVE TAKEN THE COMPREHENSIVE SCHOOL HEALTH CURRICULUM AND OTHER STUDENTS

The respondents were divided into three groups, as follows:

Group 1. Students from schools which did not have the Comprehensive School Health Curriculum. This group is 60% Junior High School students and 40% Senior High School students.

Group 2. Students from schools that had the Curriculum, but who did not themselves take a course under the Curriculum. This group is 85% Junior High School students and 15% Senior High School students.

Group 3. Students who had taken the Comprehensive Health Curriculum course. This group is 84% Junior High School students and 16% Senior High School students.

To provide some insight into the effectiveness of the curriculum, the percentage of "desirable" responses from students who had taken the Comprehensive School Health Curriculum (Group 3) were compared to responses from the other groups. The "desirable" response is the answer which is the

more risk-free, socially effective, or (in the case of questions on knowledge) factually correct. The most meaningful comparison is between Group 2 and Group 3, because these are students in the same school. Any differences between group 1 and the other groups may be due to socioeconomic differences, student age and other factors.

When compared to Group 2 students, Group 3 respondents gave a significantly HIGHER percentage of desirable answers (95% confidence level) on the 17 questions shown in Table 2. There were no questions where group 3 students gave a significantly lower percentage of desirable answers.

When compared to Group 1 students (students from other schools), Group 3 respondents gave a significantly HIGHER percentage of desirable answers (95% confidence level) on the eight questions shown in Table 2. There were three questions where Group 3 gave a significantly LOWER percentage of desirable answers. These three questions are shown in Table 3.

Table 2

SIGNIFICANT DIFFERENCES BETWEEN THE PERCENTAGE OF DESIRABLE ANSWERS GIVEN BY STUDENTS WHO HAD TAKEN THE COMPREHENSIVE SCHOOL HEALTH CURRICULUM AND STUDENTS ATTENDING SCHOOLS THAT OFFERED THE CURRICULUM BUT DID NOT THEMSELVES TAKE THE COURSE
(questions where those taking the curriculum gave more desirable answers)

	Percentage Difference	T-Score
Drug/Alcohol Related Behavior		
How many cigarettes do you normally smoke each day? (none)	10%	1.99
Used Marijuana in the past 30 days. (No)	7%	2.15
If you are with a group of your friends, all of whom are drinking alcohol, what is the likelihood that you will also have a drink? (Definitely will not)	16%	2.16
Might experiment with Marijuana. (No)	11%	2.00
Sex Related Behavior		
During the past three months, with how many people have you had sex? (none)	17%	2.15
How often do you and your partner use contraceptives when you have sexual intercourse? ("I have never had sexual intercourse" or "Always")	21%	2.89
How often do you and your partner use condoms when you have sexual intercourse? ("I have never had sexual intercourse" or "Always")	19%	2.64
Will not have sex until I am married. (Yes)	21%	2.97

Table 3

SIGNIFICANT DIFFERENCES BETWEEN THE PERCENTAGE OF DESIRABLE ANSWERS GIVEN BY STUDENTS WHO HAD TAKEN THE COMPREHENSIVE SCHOOL HEALTH CURRICULUM AND STUDENTS ATTENDING SCHOOLS THAT DID NOT OFFER THE CURRICULUM
(questions where those taking the Curriculum gave MORE desirable answers)

	Percentage Difference	T-Score
Drug/Alcohol Related Behavior		
Might experiment with Marijuana. (No)	10%	2.27
Sex Related Behavior		
During the past three months, with how many people have you had sex? (none)	29%	4.56
How often do you and your partner use contraceptives when you have sexual intercourse? ("I have never had sexual intercourse" or "Always")	22%	3.76
How often do you and your partner use condoms when you have sexual intercourse? ("I have never had sexual intercourse" or "Always")	18%	3.02
Will not have sex until I am married. (Yes)	17%	2.80
Knowledge of Material in Comprehensive School Health Curriculum		
If you eat fewer calories than you body uses you will (lose weight.)	25%	4.23
The substance that comprises the largest amount of solid waste is (cardboard and paper).	16%	2.68
Which is NOT considered a drug? (all -- marijuana, coffee, cigarettes)	16%	2.51
Consequence of heavy marijuana use is (a decrease in both male and female sex hormones)	17%	2.46
Female hormones are (estrogen and progesterone).	17%	2.41

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Table 3

SIGNIFICANT DIFFERENCES BETWEEN THE PERCENTAGE OF DESIRABLE ANSWERS GIVEN BY STUDENTS WHO HAD TAKEN THE COMPREHENSIVE HEALTH CURRICULUM AND STUDENTS ATTENDING SCHOOLS THAT DID NOT OFFER THE CURRICULUM
(questions where those taking the Curriculum gave LESS desirable answers)

	Percentage Difference	T-Score
Might Experiment with Cocaine (No).	- 6%	2.04
Physicians who work with mental and emotional problems are called (Psychiatrists).	-10%	2.19
To reduce the likelihood of infection with the AIDS virus, the only effective contraceptive is (latex condom).	-16%	2.85

SIGNIFICANT DIFFERENCES BETWEEN JUNIOR AND SENIOR HIGH SCHOOL STUDENTS

Of the usable survey forms returned, 241 (72%) were from Junior High School or Middle School students and 94 (28%) were from Senior High School students. The 29 middle school respondents were classified with the Junior High School group.

The Junior High School students gave significantly more "desirable" or risk-free answers to four questions related to anticipated drug use and to three questions related to sexual behavior. As expected, a much lower percentage of Junior High School students are sexually active.

In the survey instrument, item 8, part II asked the respondent about anticipated sexual behavior with the instruction "Circle all answers that apply." Significantly more Junior High School respondents circled "I will not have sex until I am married," and significantly fewer circled "I would make sure that one of us had contraception before having sex."

Senior High School students gave significantly more accurate answers to nine questions related to material in the Comprehensive School Health Curriculum. Strangely, they gave a significantly lower percentage of correct answers to the question on what to do if a person has swallowed poison.

The significant differences between Junior High School and Senior High School respondents are shown in Tables 4 and 5.

Table 4

SIGNIFICANT DIFFERENCES BETWEEN THE PERCENTAGE OF DESIRABLE ANSWERS GIVEN BY STUDENTS ATTENDING JUNIOR HIGH SCHOOLS AND STUDENTS ATTENDING SENIOR HIGH SCHOOLS
(Questions where Junior High School answers were MORE desirable or correct)

	Percentage Difference	T-Score
Drug/Alcohol Related Behavior		
Might experiment with Marijuana. (No)	17%	3.16
Might experiment with Amphetamines such as speed. (No)	3%	2.68
Might experiment with narcotics such as heroin. (No)	2%	2.01
Might experiment with barbiturates such as Seconal and Nembutal. (No)	2%	2.25
Sex Related Behavior		
During the past three months, with how many people have you had sex? (None)	29%	5.02
How often do you and your partner use condoms when you have sexual intercourse? ("I have never had sexual intercourse" or "Always")	22%	3.63
Will not have sex until I am married. (Yes)	19%	4.52
Knowledge of Material in Comprehensive School Health Curriculum		
If a person has swallowed poison (don't induce vomiting, call a physician immediately).	14%	2.41

Table 5

SIGNIFICANT DIFFERENCES BETWEEN THE PERCENTAGE OF DESIRABLE ANSWERS GIVEN BY STUDENTS ATTENDING JUNIOR HIGH SCHOOLS AND STUDENTS ATTENDING SENIOR HIGH SCHOOLS
(Questions where Junior High School answers were LESS desirable or correct)

	Percentage Difference	T-Score
Sex Related Behavior		
Would make sure that one of us had contraception before having sex. (Yes)	-16%*	2.59
Knowledge of Material in Comprehensive School Health Curriculum		
The substance that comprises the largest amount of solid waste is (Cardboard and paper).	-12%	2.32
The unit which measures the loudness of sound is (Decibel).	-13%	3.27
Physicians who work with mental and emotional problems are called (Psychiatrists).	-9%	2.94
The initials "FDA" stand for (Food and Drug Administration).	-16%	2.69
To reduce the likelihood of infection with the AIDS virus, the only contraceptive to use is (latex condom).	-19%	5.61
Female hormones are (estrogen and progesterone).	-15%	2.43
Reproductive cell produced in the male testes is called (sperm).	- 7%	2.56
It is important to use a seat belt (whenever you are in a motor vehicle).	-7%	2.39
Good communication is (a two way process).	-15%	2.94

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Discussion and Recommendations

It appears that the schools in Mississippi which piloted the Comprehensive School Health Curriculum have provided students with valuable information that, in certain areas, has impacted positively on student behavior. For example, a higher percentage of students exposed to the health curriculum did not smoke, did not use marijuana in the past 30 days, and did use contraceptives when they had sexual intercourse.

Results from the evaluation of the Comprehensive School Health Curriculum indicated that it was well received by students, teachers, principals, counselors, and other school professionals. Approximately eighty-eight percent of students exposed to the curriculum thought that all students in Mississippi should be exposed to the information in the curriculum. For the most part, principals stated that they believed the curriculum was successful during this pilot year and that it should be expanded to include more students.

When compared to control group students in their schools, students exposed to the curriculum gave a significantly higher percentage of correct or desirable answers on seventeen Learning and Behavior questions. There were no questions where students exposed to the curriculum gave a significantly lower percentage of correct or desirable answers.

One disturbing finding was that knowledge about safe sex practices does not necessarily translate into safe behavior. Students who correctly answered that latex condoms are the only contraceptive which reduce the likelihood of infection were less likely to always or regularly use condoms than those who answered the question incorrectly.

The researchers offer the following recommendations based on the data collected:

--Increase the number of hours that the curriculum is taught. Perhaps a five hour per week health course should be developed to better enable teachers to cover thoroughly all eleven modules.

--Increase the number of schools which are teaching the curriculum; consider the possibility of requiring the course of all students.

--Provide for evaluation of the curriculum throughout the semester(s). This would make possible an assessment of what specific activities promoted better health habits and a close examination of specific behavioral changes.

--Provide skills training for students so it is more likely that they will adopt behaviors that they intellectually know are appropriate and healthy. For example, the researchers found that 28% said they would probably or definitely have a drink if their friends were having one; an additional 25% did not know what they would do.

--Provide motivational training so that students have the desire to practice behavior they know to be healthy. For example, as noted above, students who knew that latex condoms protect against HIV were no more likely to actually use them than students who did not know this fact.

--Continue the program of teacher training developed by SDE. The train-the-trainer model is sound and will produce an expanding cadre of qualified teachers.